

# IMPLEMENTATION OF A SUSTAINABLE PROJECT IN THE TANBI WETLAND COMPLEX, BANJUL (THE GAMBIA)

Vande Wynckel David<sup>1</sup>, Mieke Vandaele<sup>1</sup>, Kawsu Jammeh<sup>2</sup>, Alpha Jallow<sup>3</sup>, Hon. Samba Faal<sup>4</sup>, Mustapha Batchilly<sup>5</sup>, Kaliba Senghore<sup>6</sup>, Tom Germonpré<sup>7</sup>, Peter Vanslambrouck<sup>7</sup>, Marc Spegelaere<sup>1</sup> and Farid Dahdouh-Guebas<sup>8,9</sup>

<sup>1</sup> Departement Industriële Wetenschappen & Technologie, Katholieke Hogeschool Brugge - Oostende, KHBO Oostende, Zeedijk 101, Oostende 8400, Belgium  
E-mail: [david.vandewynckel@student.khbo.be](mailto:david.vandewynckel@student.khbo.be); [mieke.vandaele2@student.khbo.be](mailto:mieke.vandaele2@student.khbo.be); [marc.spegelaere@khbo.be](mailto:marc.spegelaere@khbo.be)

<sup>2</sup> Department of Parks & Wildlife Management, Abuko, Gambia  
E-mail: [jammeh.kawsu@gmail.com](mailto:jammeh.kawsu@gmail.com)

<sup>3</sup> Department of Parks & Wildlife Management, c/o Department of State for Forestry & Environment State House, Banjul, Gambia  
E-mail: [alphaojay@gmail.com](mailto:alphaojay@gmail.com)

<sup>4</sup> Independence Drive, Banjul, Gambia  
E-mail: [samabu56@yahoo.co.uk](mailto:samabu56@yahoo.co.uk)

<sup>5</sup> Banjul City Council, Gambia

<sup>6</sup> Department of State for Tourism and Culture, Gambia

<sup>7</sup> Stad Oostende, Vindictivelaan 1, 8400 Oostende, Belgium  
E-mail: [tom.germonpre@oostende.be](mailto:tom.germonpre@oostende.be); [peter.vanslambrouck@oostende.be](mailto:peter.vanslambrouck@oostende.be)

<sup>8</sup> Department of Biology, Faculteit Wetenschappen en Bio-ingenieurswetenschappen, Vrije Universiteit Brussel – VUB, Pleinlaan 2, 1050 Brussels, Belgium  
E-mail: [fdahdouh@vub.ac.be](mailto:fdahdouh@vub.ac.be)

<sup>9</sup> Complexity and Dynamics of Tropical Systems, Laboratoire de Complexité et Dynamique des Systèmes Tropicaux, Département de Biologie des Organismes, Faculté des Sciences, Université Libre de Bruxelles – ULB, Campus du Solbosch, PO Box 169, Avenue F.D. Roosevelt 50, Bruxelles B-1050, Belgium  
E-mail: [fdahdouh@vub.ac.be](mailto:fdahdouh@vub.ac.be)

The aim of this on-going study is creating a design for a boardwalk that is part of an ecotouristic project in the Tanbi Wetland National Park (TWNP). This mangrove area is located adjacent to the capital of The Gambia, Banjul. The nature reserve was listed as a Ramsar site in 2007 (an "Area of International Importance") but it is under great human pressure, such as through the dumping of municipal waste in the mangrove swamps, the erosion of banks by speedboats from tourist water sports, etc. In this way, the mangrove habitats are degraded and can even be destroyed.

The entire project is supported by the City of Ostend, which has a city link with Banjul since 2003. As the City of Ostend co-finances the entire project, a cost calculation will be carried out.

The boardwalk project aims at creating awareness, both for the people of Banjul and for tourists visiting Gambia. Eco-education also plays an important role in this process; local students can visit the TWNP and learn about the mangroves and their importance. The TWNP is located close to hotels and tourist areas in Banjul. The local boats could be used for excursions in the small creeks, combined with the boardwalk-excursion. Guided tours by local inhabitants make visitors aware of the problems affecting the nature reserve.

The project includes a pedestrian walk-on bridge with a length of approximately one kilometer, two observation towers that can be used by birdwatchers, a platform where oyster women can prepare local products for visitors, a pontoon for moor canoes, etc. Another proposition is to build an open-air museum, the "Sea Life Center", located in seven different huts across the entire boardwalk. It portrays the different habitats and their ecological and socio-ecological components present in and around the mangrove.

During the calculation of the wood structure the *Belgian standards* (NBN) and *Eurocode* (EC) were followed where possible. The *Australian standards* (AUS) were also consulted, in contrast to the Belgian standards, they have standards specifically for boardwalks. These standards are used when

designing constructions. Design values were obtained from tests carried out according to the standard. We drew every boardwalk model using *Google Sketchup Pro 7.1*, a 3D software tool.

During a 5-week stay in Banjul in January-February 2011, the mangrove area will be mapped using a surveying device. The *Trimble Pathfinder Pro XRT* equipped with an *OmniSTAR* license allows measurements with an accuracy up to 20 centimeters. Based on the maps that were made, implementation plans are composed, making construction possible by the inhabitants of Banjul.